# data cente

Optical Solutions in the Data Center

The future of optical networking and communications

EXHIBITION 21 - 23 March 2017

TECHNICAL CONFERENCE 19 – 23 March 2017

Los Angeles, California, USA

ofcconference.org



₩ photonics Society







# why OFC for data center?

**OFC is the leading conference in optical technologies in the data center.** This is where nearly 13,000 leading manufacturers, developers and end users in the community gather for technology updates, education, product solutions and collaboration.

In an industry that is evolving at such an accelerated pace, OFC is the go-to source for forward-looking market intelligence and emerging technologies of the future.



# who attends OFC?

OFC brings together the optical community of network operators, enterprise, mega-scale data center and vendors to talk about the solutions and influences that are transforming optical networks. Your vendors, technology partners, customers and competitors will be here. And you should be too.

# **NETWORK OPERATORS**

Internet/Cloud Data Centers **Content Delivery Networks Colocation Data Centers** Enterprise Data Centers

**JOB FUNCTIONS** CTO/CIO Cloud Optical Engineer Data Center Manager/Engineer Director of Network Engineering IT Director/Manager Network Architect/Engineer **Optical Network Engineer** VP, Network and Cloud Architecture/ Strategy/IP Networks

# **COMPANIES**

Akamai	ESPN
Alibaba	Facebook
Amazon/AWS	Google
Apple	JP/Morgan Chase
CenturyLink	LinkedIn
Comcast	Microsoft
Cox Communications	Morgan Stanley
Digital Realty	Time Warner Cable
Equinix	Twitter
	Yahoo



# why you should attend

Exhibit Hall Admission is Free	Hear Vendor Neutral Presentations
Gain Access to Industry Leaders	Stay Current in Data Center Optics

# what is included

# EXHIBITION

Features 600 exhibitors with over 60 showcasing optical products and solutions for the data center.

# SHOW FLOOR PROGRAMS

Ten programs relevant to data center optics will be presented in 3 theaters.

# **OTHER EDUCATION PROGRAMS**

The Plenary Session and Workshops are included with Exhibits Pass Plus registration.

# ADDED VALUE: TRAINING COURSES

Take a training course covering optics in the Data Center — there are seven to choose from. Registration fees required.



# exhibition

Hear new product announcements, explore innovative and costeffective optical solutions and meet industry innovators to learn what's new and what is coming next. Meet with many of your vendors in one place, giving you the information you need to make all your optical solution decisions in one place.

# OVER 60 EXHIBITORS SHOWCASING OPTICAL PRODUCTS AND SOLUTIONS FOR DATA CENTERS

Data Center Interconnect Network Equipment

Inside the Data Center Network Equipment

**Optical Transceivers** 

Optical and Electrical Transceiver Technologies

Optical Connectivity products — Connectors, Cables, Fiber

# EXHIBIT HALL HOURS

Tuesday, 21 March	10:00 - 17:00
Wednesday, 22 March	10:00 - 17:00
Thursday, 23 March	10:00 - 16:00

# data center technology exhibitors

# ADMITTANCE TO THE EXHIBITION IS FREE WITH EXHIBITS PASS PLUS REGISTRATION

View the floor plan, review company descriptions and find products and solutions of interest. **ofcconference.org/exhibithall** 

	DATA CENTER INTERCONNECT NETWORK EQUIPMENT MANUFACTURER	INTRA-DATA CENTER NETWORK EQUIPMENT MANUFACTURER	OPTICAL TRANSCEIVERS	OPTICAL AND ELECTRICAL TRANSCEIVER TECHNOLOGIES	OPTICAL CONNECTIVITY CONNECTORS, CABLE, FIBER
ADVA Optical Networking	•				
AIM Photonics				•	•
Albis Optoelectronics				•	
Alight Technologies			•	•	
Amphenol			•	•	٠
ATOP Corporation			٠	٠	٠
Broadcom				•	
BtPhotonics				٠	
Calient Technologies	•				
Centera Photonics, Inc.				•	
Ciena Corporation	•				
Cisco Systems	•	•			
ColorChip			•	•	
Coriant	•				
Corning					•
East Point Communication Technology Co., Ltd.			•	•	٠
Emcore Corporation				•	
Ethernet Alliance			•	•	•
Finisar			•	•	•
Formerica Optoelectronics			•		•
Foxconn			•	•	•
Fujitsu Network Communications	•	٠	•	٠	
Fujitsu Optical Components			٠	٠	
Hirose Electric USA					•
Huawei Technologies	•	•			
Huber+Suhner Cube Optics			•	•	•
Infinera	•				
Innolight Technologies			•	•	

	DATA CENTER INTERCONNECT NETWORK EQUIPMENT MANUFACTURER	INTRA-DATA CENTER NETWORK EQUIPMENT MANUFACTURER	OPTICAL TRANSCEIVERS	OPTICAL AND ELECTRICAL TRANSCEIVER TECHNOLOGIES	OPTICAL CONNECTIVITY CONNECTORS, CABLE, FIBER
Inphi			•	•	
Intel				•	
Juniper Networks	•	٠			
Kaiam Corporation			٠	•	
Lightron Fiber-Optics Devices			٠	•	
Lumentum			٠	٠	
Luxtera				٠	
MACOM				٠	
Mellanox Technlogies		•		•	
Menara Networks			•	•	
Neophotonics			•	•	
Oclaro			•	•	
OFS					•
Oplink/Molex			•	•	•
Optelian Access Networks	•				
Optella			٠	٠	
PacketLight Networks	•				
Precision Optical Transcievers, Inc.			٠	•	•
Prysmian Group					•
Qorvo				•	
Samtec			٠	•	•
Semtech Corporation				•	
SiFotonics Technologies Co., Ltd.				•	
Sony Semiconductor Solutions Corporation			٠	٠	
Sony Source Photonics			•	•	
Source Photonics			•	•	
Sumitomo Electric Device Innovations			٠	•	•
TE Connectivity					•
Telescent					•
TeraXion			٠	•	
US Conec, Ltd.					•
ViaSat, Inc.				•	
Xilinx				٠	



# show floor programs

Three theaters on the show floor feature presentations by experts from global brands and key industry organizations. Get high-level takes on the state-of-the-industry, hot topics and market trends.

# **TOPICS INCLUDE:**

High-speed Interconnects and connectivity

High-bandwidth networking technologies and architectures including transceivers and SDN

Ethernet

Optics enabling cloud services

**On-board optics** 

Optics roadmap for the future

Admittance to Show Floor Programs is Free with Exhibits Pass Plus Registration

# hear industry leaders on the show floor

# **COMPANIES PRESENTING IN DATA CENTER PROGRAMS**

ADVA Optical Networking	Dell EMC	Juniper
Alibaba	Deutsche Telekom	Kaiam Corp.
Arista Networks	Equinix	Lumentum
Big Switch Networks	Facebook	Microsoft
Brocade	Fujitsu	Nexans
Cisco	Google	Oclaro
	Intel	

# INDUSTRY GROUPS DRIVING THE EVOLUTION OF OPTICAL NETWORKS





# show floor schedule

DATA CENTER PROGRAMS	TUESDAY 21 MARCH	WEDNESDAY 22 MARCH	THURSDAY 23 MARCH
OCP, Transforming the Future of Data Centers	10:15 – 11:45		
The Fracturing and Burgeoning Ethernet Market (Ethernet Alliance)	11:00 – 12:00		
Data Center Summit: Next Generation Optical Technologies Inside the Data Center	12:15 – 13:45		
MEF's LSO Enables Third Network Services for Cloud Content and Service Providers	12:30 – 13:30		
Global Market for Subsea Fiber Optic Networking Application	14:30 – 16:00		
On-board Optics — Challenges, Discoveries and the Path Forward (COBO)		10:15 – 11:45	
Open Management and Monitoring of Multilayer Webscale and Carrier Networks (Open Config)		12:00 – 13:30	
How Will Fog Reshape Computing and Networking (IEEE Cloud Computing, Open Fog Consortium)		15:30 – 17:00	
Pluggable Optics — How is the Ecosystem and Value Chain Changing?		15:30 – 17:00	
ONF: The Path Forward			12:00 - 13:30

# show floor programs

# OCP, Transforming the Future of Data Centers

In this panel, the Open Compute Projects discusses how large content providers, datacenter owners, and solution providers from around the world are planning to use products that are developed under the OCP umbrella. Panelists from Equinix, Facebook and Big Switch Networks, share their experiences and if they are not currently using these products, what needs to change.

# Ethernet: The Fracturing and Burgeoning Market

This Ethernet Alliance panel of optics and systems experts will discuss the diverse applications driving Ethernet optics to new level of diversity, speed and scale. This panel will discuss how the 100GbE market is thriving yet the fracturing of the market with the combination of form factors and optical variants may hinder low costs production unless the industry unites around a few form factors and optical variants.

# Data Center Summit: Next Generation Optical Technologies Inside the Data Center

The data center summit panel focuses on next generation optical technologies likely to be used inside the data center. It includes both standard and custom solutions. Panelists will discuss the evolving data center requirements from both the hyperscale and the nonhyperscale perspective. Topics to be covered include silicon photonics and 400G switching with speakers from Intel, Nexans, Arista Networks and Alibaba.

# MEF's LSO Enables Third Network Services for Cloud Content and Service Providers

This presentation, organized by MEF will explain how Lifecycle Services Orchestration (LSO) is the critical enabler of automated and virtualized networks built with SDN and NFV. The talk will cover enterprise business drivers for on-demand, agile, automated, cloudconnected connectivity services; how LSO/SDN/NFV enables service innovation and a practical roadmap for protecting legacy investments.

# <u>Global Market for Subsea Fiber Optic</u> <u>Networking Applications</u>

This session provides an overview of various technologies and applications in subsea fiber optic networking. Panelists include Cisco, Google, Equinix, TE SubCom and NEC Corp.

# <u>On-board Optics — Challenges,</u> <u>Discoveries and the Path Forward</u>

The Consortium for On-Board Optics (COBO) launched at OFC in 2015 to start the process of developing specifications for on-board or embedded optics. The panel will discuss some of the technical challenges and key learnings from the effort over the past two years. It will also look at what is next for the data center networking and the status of the newly formed coherent working group.

# show floor programs

# Open Management and Monitoring of Multilayer Webscale and Carrier Networks

Operators face significant challenges. This session, organized by OpenConfig, will host representatives from web scale operators, carriers, and equipment manufacturers to discuss challenges in scaling global networks while reducing costs and delivering highly available infrastructure and services. Panelists will focus on the latest open management interfaces (OpenConfig, NETCONF, OpenFlow, etc.), new monitoring approaches such as streaming telemetry and pub/sub, and innovations in SDN and transport-SDN.

# How will Fog Reshape Computing and Networking

This panel, organized by IEEE Cloud Computing and the Open Fog Consortium, will discuss end-to-end software architectures for enabling Fog. This will include software architectures for dynamically distributing computing, storage, networking, and control services to where they will best meet user requirements, how Fog interfaces with the Cloud and with the Things, and how to secure the distributed service architecture. The panel will also discuss the new networking infrastructures that will be required to support Fog, the new networking capabilities made possible by Fog and the impact on Optical.

# <u>Pluggable Optics — How is the</u> <u>Ecosystem and Value Chain Changing?</u>

Recently 50G and beyond transceivers have been developed that significantly reduce power, footprint and cost. These include form factors such as CFP8, QSFP56, QSFP-DD, SFP56 as well as a form of on-board optics — all to address equipment faceplate density. Technologies being considered include four-wave. four-fibre, two-wave and single-wave solutions that will address 50G, 100G, 200G and 400G. This panel of industry experts from ADVA, Dell EMC, Facebook, Lumentum and Kaiam Corporaton will strive to determine the potential winning technology from the wide variety of options.

# **ONF: the Path Forward**

This session, organized by the Open Networking Foundation, highlights the path forward for ONF in these areas: creating standards, 5G and SDN/NFV, the development of API's for Transport Networks and how CORD can be used by Service Providers to deliver on-demand, ZTP for Enterprise customers (E-CORD).

# other programs

# PLENARY SPEAKER — TUESDAY, 21 MARCH

The Plenary Session is free with Exhibits Pass Plus registration.



# **URS HÖLZLE**

SENIOR VICE PRESIDENT FOR TECHNICAL INFRASTRUCTURE GOOGLE, INC., USA

# A Ubiquitous Cloud Requires a Transparent Network

### DESCRIPTION

What makes cloud amazing is ubiguity. What makes Cloud ubiquitous is the network. We realized that at Google over a decade back while building the first truly global Cloud infrastructure. Ever since, we have been building a network unparalleled in reach, scale and capability. While we built the network as the backbone of a global super computer, we also turned the network control and management planes into distributed services running on the same Cloud. In the process, we made every network layer, including optical transport, intelligent, fault-tolerant, highly reliable and programmatically manageable to allow for rapid evolution and innovation. We have also applied the lessons of disaggregation, learned from Cloud, widely to our network infrastructure.

### BIOGRAPHY

As Senior Vice President for Technical Infrastructure at Google, Urs Hölzle oversees the design, installation, and operation of the servers, networks, and datacenters that power Google's services.

# other programs

# WORKSHOPS

Free with Exhibits Pass Plus registration.

### Scaling data Center Bandwidth: Novel Optics, Advanced Electronics or New Architectures

Sunday, 19 March

# ORGANIZERS

Piero Gambini, *STMicroelectronics, Italy* Ming-Jun Li, *Corning, USA* Ilya Lyubomirsky, *Facebook, USA* 

Bandwidth and power consumption are two key factors to be considered for cost-sensitive datacenter applications. As datacenter switch port bandwidths continue scaling to 400Gb/s and beyond, the data center network hardware power dissipation is increasing exponentially. The coming "power crunch" associated with the increased bandwidth will be a major problem for datacenter operators. This workshop will discuss various alternative solutions such as: novel optics, silicon photonics, DSP, multimode or multi-core fibers, FEC, ROADMs, optical switches or coherent technology. This workshop brings together experts from optics, fiber, SerDes design, DSP/ FEC, and network architecture for an interdisciplinary discussion.

### PANELISTS

Andy Bechtolsheim, Arista, USA Sudeep Bhoja, InPhi, USA Brad Booth, Microsoft, USA Bruce Chow, Corning, China Peter De Dobbelaere, Luxtera, USA Laura Giovane, Broadcom, USA Chris Kocot, Finisar, USA Benny Mikkelsen, Acacia, USA Brian Taylor, Facebook, USA

# White Box Optics: Will it Kill or Encourage Innovations?

### Monday, 20 March

### ORGANIZERS

Chongjin Xie, *Alibaba Group, USA* Filippo Cugini, *CNIT, Italy* David Boertjes, *Ciena, Canada* 

Disaggregated networks can bring many benefits to networks operators, including better control of networks, no vendor lock in, and reduced cost. Recently the concept of white box optics is rapidly emerging as can be seen in initiatives such as Open ROADM and Open Line System. However, there is a fear that white box optics may commoditize the industry and squeeze the profit margins for equipment vendors, which will eventually stop the industry from investing on innovations. On the other hand, there is an argue that white box optics may open up closed and proprietary optical networks and give small business and new comers more chances, which will encourage more innovations. This workshop brings together experts from equipment vendors and network operators to express their opinions on white box optics and discuss where it will head to.

### PANELISTS

Martin Birk, AT&T, USA Rick Dodd, Ciena, Canada Niall Robinson, ADVA, USA Peter Roorda, Lumentum, USA Hans-Juergen Schmidtke, Facebook, USA Vijay Vusirikala, Google, USA Glenn Wellbrock, Verizon, USA Szilard Zsigmond, Nokia Bell Labs, USA



# training courses in optical technologies

Take a Short Course at OFC. Short Courses are half-day training courses that offer clear, concise overviews of optical technologies relevant to data center and optical networking and are taught by industry experts from Google, IBM, Infinera and more. (Registration fee required.) For complete details on objectives and instructor biographies visit: **ofcconference.org/shortcourse** 

DATA CENTER SHORT COURSES	SUNDAY 19 MARCH	MONDAY 20 MARCH
Data Center Networking 101 (SC359)	9:00 - 13:00	
Standards for High-speed Optical Networking (SC328)	17:00 - 20:00	
The SDN Revolution of Wireline Transport due to Cloud Services and DCI Innovations (SC386)	17:00 - 20:00	
Link Design for Short Reach Optical Interconnects (SC428)	17:00 - 20:00	
Test and Measurement for Data Center/Short Reach Communications (SC178)		8:30 – 12:30
Optical Interconnect for Extreme-scale Computing (SC385)		9:00 - 12:00
Photonic Technologies in the Data Center (SC431)		13:30 – 16:30

# short courses

### SC359 – Data Center Networking 101

Sunday, 19 March, 9:00 - 13:00 INSTRUCTORS

Cedric Lam and Hong Liu, Google, USA

This course describes architecture philosophies and technological considerations in constructing modern data center networks, with an emphasis on the roles of optical networking technologies. We will introduce the key optical technologies for inter and intra datacenter networks, the trade-offs among various implementation options, and the trends in the next 3 to 4 years. In this course, we will also explain how datacenter technologies are applied in telecommunication networks as well.

# <u>SC328 – Standards for High-speed</u> Optical Networking

Sunday, 19 March, 17:00 - 20:00 INSTRUCTOR

Stephen Trowbridge, Nokia, USA

This course provides an introduction to a complementary set of standards for high-speed optical networking including the Optical Transport Network (OTN) standards developed by ITU-T Study Group 15, higher speed Ethernet (100 Gb/s, 200 Gb/s, 400 Gb/s) standards developed by IEEE 802.3, and the Flex Ethernet implementation agreement developed by the Optical Internetworking Forum (OIF). It covers the basic concepts of G.709, with specific emphasis on the recently added interfaces and capabilities. You will learn how Ethernet, Flex Ethernet and other traffic can be carried by an international standard based digital wrapper solution. You will develop an appreciation for the flexibility provided in the latest OTN standards to transport a wide variety of client signals and to efficiently manage bandwidth.

# <u>SC386 – The SDN Evolution of Wireline</u> <u>Transport due to Cloud Services and</u> <u>DCI Innovations</u>

Sunday, 19 March, 17:00 - 20:00

Loukas Paraschis, Infinera, USA

This introductory Short Course reviews the important characteristics of wireline transport for DCI and "cloud" service delivery, focusing particularly in the significant innovations in routing and optical. This course identifies the main use-cases and value of SDN and NFV that are important in the new "cloudbased" wireline transport. The course also discusses the emerging SDN architectures and technologies; notably the Openconfig, and Open ROADM industry abstraction frameworks, and protocols like YANG, NETCONF/RESTCONF, gRPC, or PCEP/C, and Source Packet Routing (IETF SPRING), which collectively aim to improve the operations and utilization of the core and metro/access transport infrastructure. At the same time, DCI innovations have been simplifying routing, and focusing on multi-Terabit optical transport based on flex-spectrum superchannel DWDM transmission. The course evaluates all these software and hardware innovations, and their potential synergies. Active research and standards efforts are also summarized.

# short courses

# <u>SC428 – Link Design for Short Reach</u> <u>Optical Interconnects</u>

Sunday, 19 March, 17:00 - 20:00 INSTRUCTOR

Petar Pepeljugoski, IBM Research, USA

The primary objective of this course is to provide the participants with an introductory knowledge in link design. We will discuss the possible approaches to link design and go in depth over the individual link penalties and losses and noises. The course includes in-depth coverage of signal propagation in multimode fibers (laser launch conditions, fiber DMD), effects of various signal dependent types of noise (mode partition noise, modal noise, relative intensity noise) and their impact on the link performance. It includes a discussion of connector effects (mode mixing) and measurement methodologies used to specify the modern multimode fibers and sources operating at 850nm. Advanced modulation formats (PAM-4, DMT) and their applicability to short optical interconnects will also be covered.

# <u>SC178 – Test and Measurement for Data</u> <u>Center/Short Reach Communications</u>

Monday, 20 March, 08:30 - 12:30 INSTRUCTOR Greg D. Le Cheminant, *Keysight* 

Technologies, USA

This course emphasizes measurement tools and techniques to characterize signal quality and how well it is maintained when transmitted through a data center/short reach optical system. It will focus on three measurement areas: bit-error-ratio (BER) analysis, oscilloscope waveform analysis with emphasis on the NRZ and PAM4 eye diagrams, and jitter analysis. The basics for each measurement type will be covered, gradually building to the more difficult aspects of measurements. The course emphasizes research and development and manufacturing measurements of components and subsystems and will not discuss installation and maintenance testing.

### <u>SC385 – Optical Interconnects for</u> <u>Extreme-scale Computing</u>

Monday, 20 March, 09:00 - 12:00

### INSTRUCTORS

John Shalf, *Lawrence Berkeley National Laboratory, USA* 

Keren Bergman, Columbia University, USA

This course will include an introduction to the system organization and architectures of today's top supercomputers as well as the emerging interconnection networking challenges. The potential applications of integrated photonics in future supercomputing and datacenters including the design, power consumption, and performance analysis will be covered as will innovative technologies on the horizon, such as hybrid memory, optical interconnects, multicore processors and accelerators, and petascale supercomputers.

# <u>SC431 – Photonic Technologies in</u> <u>the Data Center</u>

Monday, 20 March, 13:30 - 16:30

# INSTRUCTOR

### Clint Schow, University of California, USA

This course discusses and details the photonic technologies that are used to connect datacenters. The use of optics in datacenters is rapidly evolving due to both advances in technologies as well as system architectures that drive the adoption of new solutions. The advantages and limitations of technologies, including VCSELs, Si Photonics, and InP platforms will be discussed to provide insight into how systems are wired today and how the future may evolve. Leading edge research efforts aimed at enabling greater proliferation of photonics, including both interconnects and optical switching fabrics will be examined. A focus will be placed on opportunities for new technologies and architectures to radically change the trajectory of system design and implementation.

# REGISTRATION

Registration Categories	Full Conference Registration	Exhibits Pass Plus**
Advance Registration thru 20/02/17		
Member *	\$665	\$0
Nonmember	\$835	\$0
Student Member *	\$195	\$0
Student Nonmember	\$235	\$0
Registration after 20/02/17		
Member *	\$790	\$0
Nonmember	\$970	\$0
Student Member *	\$275	\$0
Student Nonmember	\$355	\$0
Plenary Session	٠	۲
Technical Sessions and Rump Session	٠	
Exhibition and Show Floor Programming	٠	٠
Market Watch	٠	•
Network Operator Summit	•	٠
OFC Career Zone	•	٠
Workshops	•	٠
Poster Sessions	٠	٠
Conference Reception	٠	
Conference Program Book	•	
Technical Digest (on USB Drive)	٠	
Postdeadline Papers Book	٠	
Exhibits 2017 Buyers' Guide	٠	٠

# ofcconference.org/registration

\* Member of IEEE Communications Society, IEEE Photonics Society or The Optical Society \*\* Not for use by technical program presiders, poster presenters or speakers

### SHORT COURSE REGISTRATION

Each Short Course requires a separate registration fee. Advance registration is suggested as each course has limited seating. There will not be a wait list for sold out courses. Tickets are required for admission to Short Courses and for Short Course Notes, which are distributed on-site. Short Course Notes are not available for purchase separately.

Short Course registration also includes admission to the plenary session, exhibit hall, Market Watch, Network Operator Summit, the OFC Career Zone, workshops, poster sessions and Exhibits 2017 Buyers' Guide.

	Advance Registration thru 20/02/17**	Registration after 20/02/17**
Member*		
Half Day	\$275	\$335
Hands-on	\$335	\$385
SC432	\$435	\$485
Nonmember		
Half Day	\$350	\$410
Hands-on	\$410	\$480
SC432	\$510	\$580

# **FULL CONFERENCE REGISTRATION**

In addition to the world's leading Exhibition in optical networking and communications, OFC has a world-class technical program featuring over 500 peer-reviewed technical presentations and more than 100 invited experts in the field. If you are interested in expanding your learning, consider registering for the Full Conference (registration fee required).

Hear from the industry's luminaries, business leaders and innovators in special sessions at OFC on topics such as data center architectures, data center interconnection (DCI) optical technologies, SDN, Ethernet progression in data center networks and much more.

Learn more about OFC's comprehensive technical program on relevant data center technologies. **ofcconference.org/technicaldatacenter** 

# hotel

onPeak is the official hotel vendor for OFC 2017. onPeak brings you unbeatable rates at a variety of popular hotels within walking distance to the Los Angeles Convention Center. We have negotiated exclusive room discounts to help you save money on your trip. When you reserve a room through onPeak, you help OFC keep meeting costs as low as possible. To learn about new hotels being added, the availability status of all hotels and to reserve your accommodations, visit <u>ofcconference.org/hotel</u>

### Los Angeles Convention Center

1201 S Figueroa St. Los Angeles, California 90015

	Convention Center Distance	Rates from (per night)*
Courtyard Los Angeles L.A. LIVE	.2 miles	\$248
DoubleTree Hotel (formerly Kyoto)	2.9 miles	\$239 SGL \$259 DBL
FreeHand Hotel	.2 miles	\$229
Hilton Checkers	1 mile	\$265
Hotel Indigo	.3 miles	\$265
JW Marriott Los Angeles at L.A. Live	.2 miles	\$292
Kawada Hotel	1.7 miles	\$169
LA Hotel Downtown	1.6 miles	\$211
LUXE Hotel	.2 miles	\$252
Millennium Biltmore Hotel	1.1 miles	\$228
0 Hotel	.8 miles	\$199
Omni Los Angeles	1.5 miles	\$259
Residence Inn Los Angeles LA Live	.2 miles	\$258
Grand Sheraton LA Downtown	.8 miles	\$254
The Line Hotel	2.2 miles	\$239
The Ritz Carlton	.3 miles	\$411
The Standard	.9 miles	\$209
Westin Bonaventure Hotel and Suites	1.7 miles	\$248

# location

# Los Angeles Convention Center 1201 S Figueroa St. Los Angeles, California 90015 USA

# 2017 dates

20 February Advance Registration Deadline 23.59 EST (04.53 GMT)

27 February Hotel Reservation Deadline

19 – 23 March Technical Conference

21 – 23 March Exhibition

# support

# general information

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# registration customer service

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hotel reservations

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